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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/784,213	02/24/2004	Willy Poppe	POPP3001/JEK	8412

23364 7590 02/26/2007  
BACON & THOMAS, PLLC  
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ALEXANDRIA, VA 22314

EXAMINER
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AFTERGUT, JEFF H

ART UNIT	PAPER NUMBER
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1733

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/26/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/784,213

Applicant(s)

POPPE, WILLY

Examiner

Jeff H. Aftergut

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 January 2007.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 3-13 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1 and 3-13 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_.

***Claim Rejections - 35 USC § 103***

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1, 3, 5-7, 9-11, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over PCT WO 03/003878 in view of Lockwood et al (both newly cited).

At the outset, it should be pointed out that PCT '878 is available as prior art under 35 USC 102(b) in the rejection based on 35 USC 103(a). While Poppe is the same inventor of the subject matter of PCT '878, the application was published more than a year prior to the filing of this application (January 16, 2003) and thus the reference is available as prior art under 35 USC 102(b). PCT '878 taught that it was known at the time the invention was made to form a filling element for a mattress which included the steps of providing slits in a polyurethane foam layer (page 4, lines 12-13) and to form a plurality of strips from the slit polyurethane foam (page 5, lines 13-28, and in particular lines 23-26) by severing the larger polyurethane foam layer. The reference to PCT '878 taught that each so formed strip was rolled up to form a tube and the two lateral edges of the strip were glued together to provide for the spring body. The reference thus taught the formation of a plurality of spring bodies from a single layer of polyurethane foam material which was initially slit and then severed into strips prior to formation of the spring bodies. The reference to PCT '878 failed to teach that the polyurethane foam material employed was a viscoelastic polyurethane material which was crushed in order to provide an open cell structure (i.e. compressed such that a gas pressure within the cells rises to burst the cells).

Lockwood et al suggested that it was known at the time the invention was made to provide a viscoelastic foam material particularly a polyurethane viscoelastic foam in the manufacture of a pillow, a mattress or a wheelchair seat because of its resilience and recovery properties, column 1, lines 26-40. The reference to Lockwood et al clearly suggested that for a polyurethane foam material (note that PCT '878 suggested that a polyurethane foam material would have been selected for the process therein) it would have been understood by the ordinary artisan to utilize a viscoelastic material. The reference to Lockwood et al additionally suggested that one skilled in the art at the time the invention was made would have desired that the viscoelastic polyurethane foam material was open celled as having an opened celled structure avoided foam shrinkage (column 3, lines 28-30). Lockwood et al suggested that the manner in which polyurethane foams were rendered viscoelastic included use of polyols with low to medium range equivalent weights which interfered with polyurea precipitation or micro domain formation which in turn interfered with spontaneous cell opening (column 3, lines 30-35). Lockwood et al suggested that in order to provide these viscoelastic polyurethanes with an open cell structure it was known in the art to crush the foam to promote cell opening, see column 3, lines 35-38. Thus, when making a viscoelastic polyurethane foam for a mattress or other cushioning device (which was clearly established by Lockwood et al as a desirable form of polyurethane for such applications), it would have been obvious to one of ordinary skill in the art at the time the invention was made to crush the viscoelastic polyurethane foam material in order to provide for open cells therein (which prevented foam shrinkage) as taught by Lockwood

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et al when providing a polyurethane foam material suitable for a mattress assembly in the process of making a spring component for a mattress or pillow assembly as taught by PCT '878.

With respect to claims 3, 7, and 11, note that PCT '878 provided the slits in this specified direction. With respect to claims 5, 9, and 13, the reference to PCT '878 taught the opening of the slits as a function of the bending and stretching action on the strip as claimed.

3. Claims 4, 8 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as set forth above in paragraph 2 further taken with E.P. 793,932 (newly cited).

The references as set forth above in paragraph 2 suggested that those skilled in the art would have formed the spring elements from a strip which was slit and then was bent to have its ends joined whereby one was provided with a tubular spring element for the mattress. The references taught that one skilled in the art would have provided the spring elements with a cylindrical shape, and not a biconical shape on the exterior of the tubular element. However, it was known when making a spring element for a pillow or mattress of the type formed from a single strip which had its ends joined after a bending operation (of the same type as PCT '878) to incorporate a strip with a specified shape such that the central portion of the tubular element was of a lesser diameter than that of the exterior ends thereby providing a biconical shape to the finished assembly as taught by E.P. '932, see Figures 1, 3, 5, 6, and 8, for example. The reference taught that thus shape for the exterior of the spring was desirable, as it would have provided a softer

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exterior to the spring assembly making it ideal for pillow and mattress applications. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the spring elements for the assembly with a biconical shape as defined by E.P. 793,932 in order to provide the mattress or pillow assembly with the desired softness in the finished assembly as well as requisite resiliency in the process of making a spring element for a mattress or pillow as taught above in paragraph 2.

### ***Response to Arguments***

4. Applicant's arguments with respect to claims 1, and 3-13 have been considered but are moot in view of the new ground(s) of rejection.

In light of the new ground of rejection presented herein, the arguments presented by applicant in the reply are deemed moot.


### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff H. Aftergut whose telephone number is 571-272-1212. The examiner can normally be reached on Monday-Friday 7:15-345 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Jeff H. Aftergut  
Primary Examiner  
Art Unit 1733

JHA  
February 23, 2007